DOCUMENT RESUME

ED 089 673 IR 000 385

AUTHOR Neuhauser, Charlotte
TITLE The Design and Implementation of a Management Information System to Facilitate the Functioning of a CBTE Program.
INSTITUTION Wayne State Univ., Detroit, Mich. Dept. of Vocational and Applied Arts Education.
PUB DATE Apr 74
NOTE 39p.; Paper presented at the American Educational Research Association Annual Meeting (Chicago, Illinois, April 15 through 19, 1974)

EDRS PRICE MF-$0.75 HC-$1.85 PLUS POSTAGE
DESCRIPTORS Computer Oriented Programs; *Data Processing; Higher Education; *Management Information Systems; *Performance Based Teacher Education; Program Descriptions
IDENTIFIERS IBM 360 Model 67 Computer; MIS; VAE; Vocational and Applied Arts Education

ABSTRACT

The Vocational and Applied Arts (VAE) Management Information System (MIS) is designed to select, store, process, and transmit information needed in a competency-based teacher education (CBTE) program. The system is computerized and is composed of six subsystems which deal with admissions, class scheduling, faculty loads, instruction, field experience, and program evaluation; it functions through a series of data banks which interface and which can be used interchangeably to provide reports and analyses. These data banks consist of the following files: 1) Master Student; 2) Plan of Work; 3) Master Faculty; 4) Course Objectives and Parameters; 5) Program Evaluation; and 6) Followup. The system utilizes two IBM 360 Model 67 computers with Fairchild semiconduit memories and has access to three UCC 1135 terminals and an IBM Magnetic Card Communicating Typewriter. A faculty manual, a system operations manual, an equipment operation manual, and an instructional system manual support the operation of the entire system. (Author/LB)

ED 089673

5.02

THE DESIGN AND IMPLEMENTATION OF A MANAGEMENT INFORMATION SYSTEM TO FACILITATE THE FUNCTIONING OF A CBTE PROGRAM

By

Charlotte Neuhauser

Wayne State University

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

American Educational Research Association

April, 1974

IR000 385

THE DESIGN AND IMPLEMENTATION OF A MANAGEMENT INFORMATION SYSTEM TO FACILITATE THE FUNCTIONING OF A CBTE PROGRAM

Even though the instructional phase of a competency-based teacher education system may well be considered the heart of the program, it will cease to function if a management information system is not developed to support vital decisions.

The intent of this paper is to show how a Management Information System (MIS) designed in an orderly, systematic manner can provide benefits to faculty and students which will help them facilitate more effective education. In the design of the MIS at Wayne State University, the individuality of both staff member and student have been considered. We have attempted to preserve this individuality by focusing our planning and tools on the student and assuring that his capabilities and needs are considered throughout the system. In the same manner, the faculty member's uniqueness has been preserved by providing a series of procedures which ultimately culminate in the same goal but allow a faculty member the choice of paths to follow.

What is the VAE Management Information System?

The major purpose of the VAE Management Information System is to select, store, process, and transmit information to the faculty and students at a time when it can most effectively be used, enabling them to make more knowledgeable decisions. The MIS is a computer-based system, basically meeting the criteria for a real-time system; however, due to our need to be as cost conscious as possible and the lack of immediate need for some information, a delay may occur at times in the updating of files.

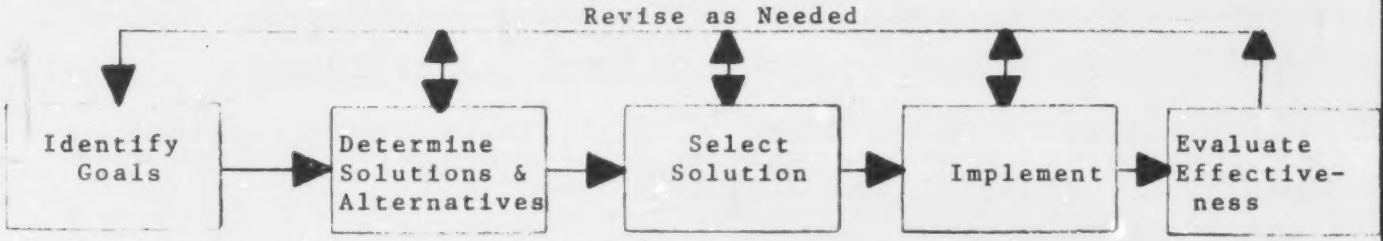
Since the main purpose of the MIS is to provide information to the faculty when they need it and with only a limited support staff,

the faculty is encourage to use the remote terminals to obtain their own informational printouts.

How Was the MIS Developed?

The educational system design procedure must take the planner from where he is to where he wants to be in an orderly, logical manner. The design of an MIS follows the same problem-solving process as does the instructional system design. Figure 1 shows the general process through which the design of any MIS must progress.

Figure 1...General MIS Design Procedure



However, the design of an MIS can and must be dissected into much smaller and more manageable components. The detailed development of our MIS is presented in Figure 2.

Identification of Subsystems

The identification of the subsystems, their goals, and the constraints on each cannot be begun until the designer is oriented to the faculty and the departmental philosophy and personality. This must be accomplished if the design of the system is to meet the needs of the department, yet kept within the constraints placed upon it by various

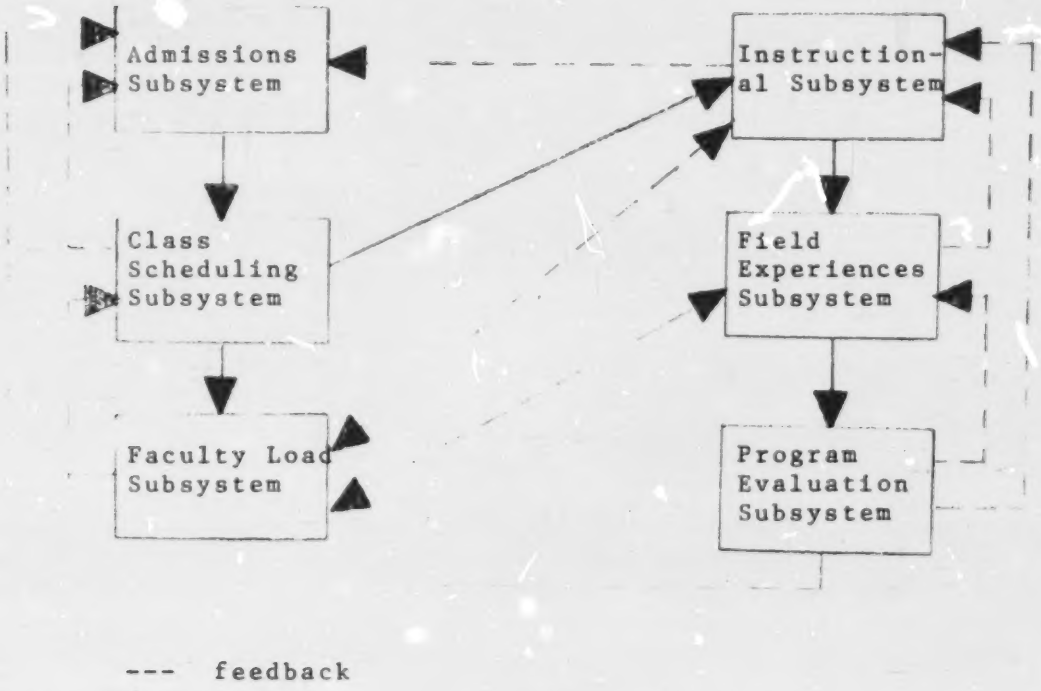
Figure 2...Specific Development of MIS

Define System 1.0
Identify Subsystems 2.0
Design Subsystems 3.0
Specify Subsystem Goals 3.1
Establish System Constraints 3.2
Identify needed data to accomplish goals 3.3
Identify data source 3.4
Identify data update procedure 3.5
Identify retention of data 3.6
Compare Subsystems for Duplication 4.0
Eliminate Duplicate Data Requirements 5.0
Evaluate for Cost Effectiveness 6.0
Design collection & management of data procedure 7.0
Develop Software 8.0
Train personnel 9.0
Implement System 10.0
Document System 11.0

idyocyncracies or characteristics of the staff and students. Since university professors are notorious for "doing their own thing," if the system operation is to be a cooperative venture with everyone participating effectively, it is necessary to elicit as much input from the faculty, students, and clerical staff as possible.

The identification of subsystems was begun by listing all the general functions which were being performed in the Department at that time, i.e., admitting students, as well as those functions which would have to be initiated to make a competency-based system. These functions were then separated into logical groups according to similarity. We had our first list of subsystems. This list was refined to six subsystems as additional analysis took place. The relationship of the six subsystems and the feedback circuitry are illustrated in Figure 3.

Figure 3...Relationship of MIS Subsystems



Admission Subsystem

This subsystem was designed to facilitate the admission of a student in such a way that the process and the collected data would be beneficial to both faculty and students. The major time parameter of the subsystem is to process the student's admission and enter his records into the computer within one week's time.

Three constraints were kept in mind when this subsystem was developed--the faculty's aversion to paperwork, little knowledge on the part of the student of the departmental system, and limited and inexperienced clerical help. The faculty was especially desirous of eliminating routine paperwork so they could spend more time with students, an essential component of a competency-based program. A plan of work (Appendix A) was developed that was easy to use but yet provided the information which was needed to enter the student records into the data bank and provide input for class enrollment projections and various profile reports. The Plan of Work is prepared by a faculty advisor in consultation with the student.

Prior to the faculty-student conference, the student participates in a multi-media experience which explains the VAE competency -based program and the sequence of experiences he will have.

The major reason for computerizing the Plan of Work data was to provide for the faculty a current projection of enrollment figures for all classes. By requiring a plan of work for each student, the faculty is able to maximize the utilization of all resources. The data from the plan benefits the students by guaranteeing experiences for him with a competent instructor at the appropriate time.

Any change which affects the department's scheduling procedure must be made through a formal change. A monitoring system has been developed which informs the student if he has deviated from his plan of work by sending him a computer-generated letter at the beginning of each quarter.

Figure 4 displays the overall subsystem, the computer reports provided, persons to whom the reports are disseminated, and the types of decisions that can be made on the basis of the reports. The small circle containing a "D" implies a decision point for appropriate personnel. Branching from this decision point are the kinds of decisions that may be made. The top of each report symbol shows the person or group to whom that report is disseminated.

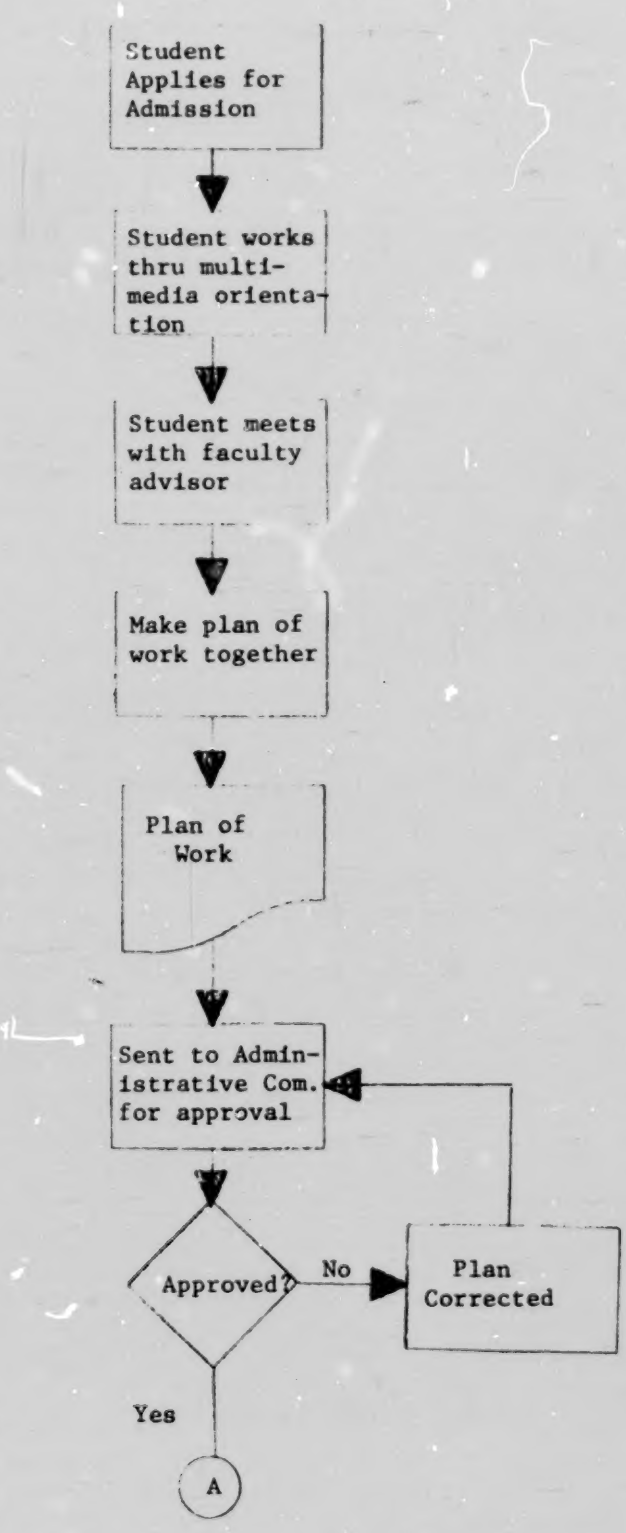
Class Scheduling Subsystem

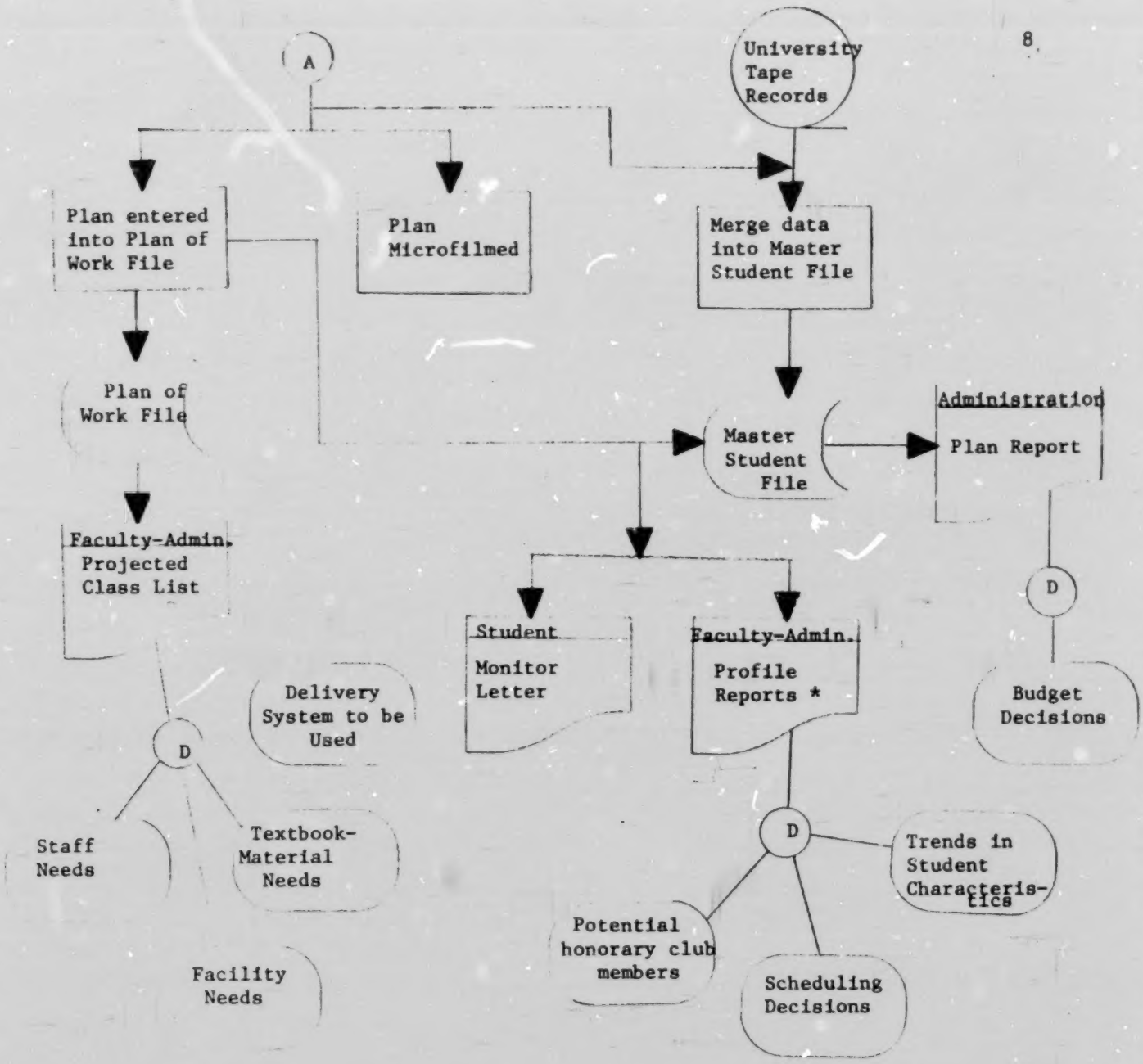
Much time is spent each quarter by the administration deciding which courses to offer, hours to be offered, and assignments of teachers. By developing a computerized class schedule subsystem, a tentative basic schedule can be generated which can be used to make the final schedule.

The data garnered from the plan of work file gives the faculty the ability to make decisions as to which classes should be offered during each quarter. It also predicts the number of faculty needed each quarter as well as the predicted faculty load of each.

In addition, the expertise or past experiences needed on the part of the faculty to most effectively teach each objective of the

Figure 4...Flowchart of Admissions Subsystem





* Parameters for Profile Reports include: Admission date, sex, marital status, age, curriculum area, rank, HPA, last quarter enrolled, courses taken, courses not taken, courses listed in plan of work, courses not listed in plan, expected graduation date.

Parameters may be used in all possible combinations.

program may be identified. These then may be matched with those the faculty possesses when assigning an instructor to a class.

Figure 5 shows the class scheduling subsystem and its resultant reports.

Faculty Load Subsystem

As we began to work with the competency-based teacher education program, we recognized the need for a more equitable method for determining faculty load credit--a method which would ensure that the activities required of faculty in a competency-based program would be given credit. In order for all facets of activitiy to be given credit and for there to be an interface between the class scheduling subsystem, the faculty load subsystem, and the instructional and field experience subsystems, it was essential to computerize the data. A report is provided which shows the number of credit hours generated by each professor and any parameters he has exceeded. It is possible to know whether the University owes credit to the professor or vice versa. This portion of the system has indeed been one of the most difficult to design satisfactorily. The model is not perfectly equitable and completely workable at this time; however, we believe we have the conduit which, in time, will provide the Department with a satisfactory method for determining credit in a competency-based program. Figure 6 depicts the Faculty Load Subsystem.

Figure 5...Flowchart of Class Scheduling Subsystem

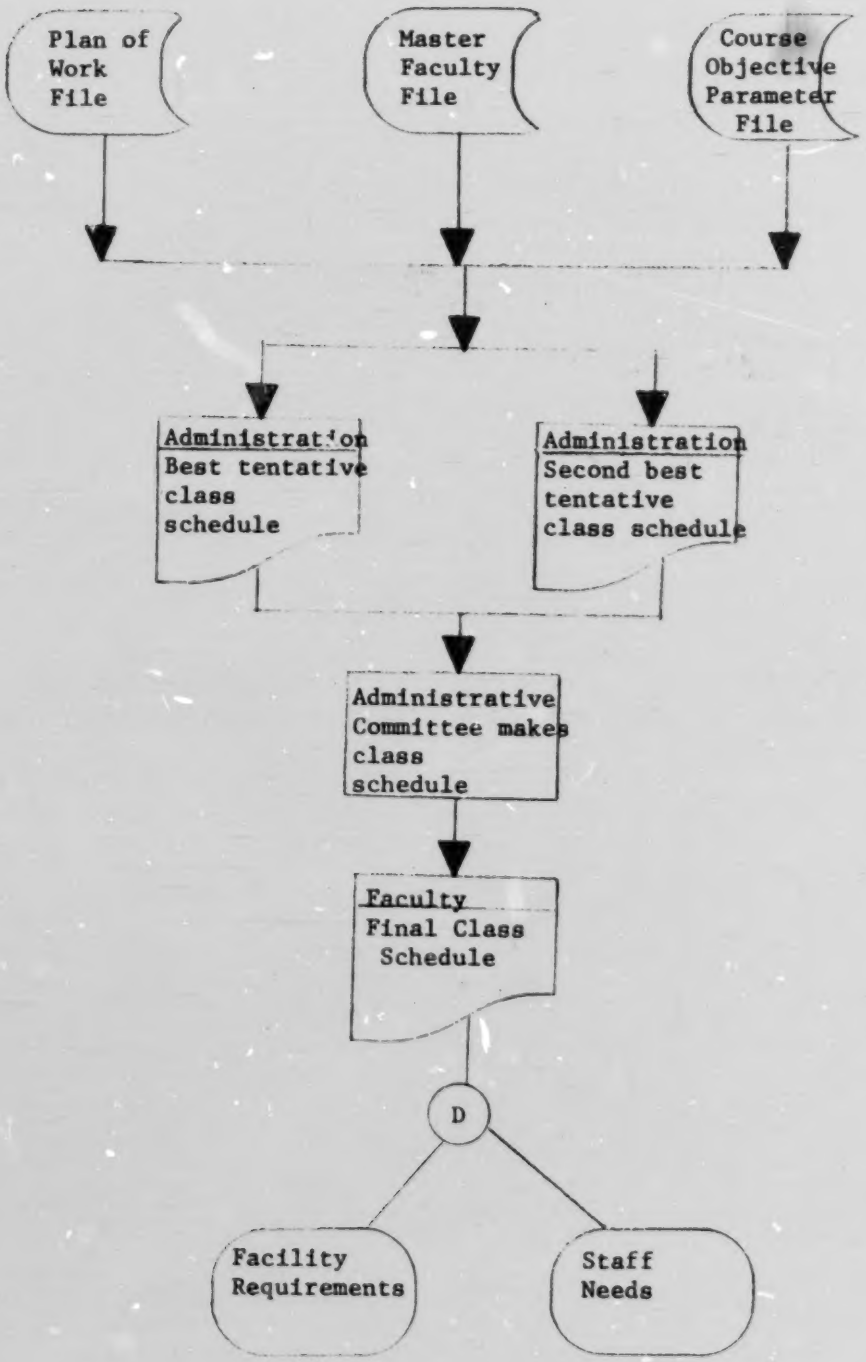
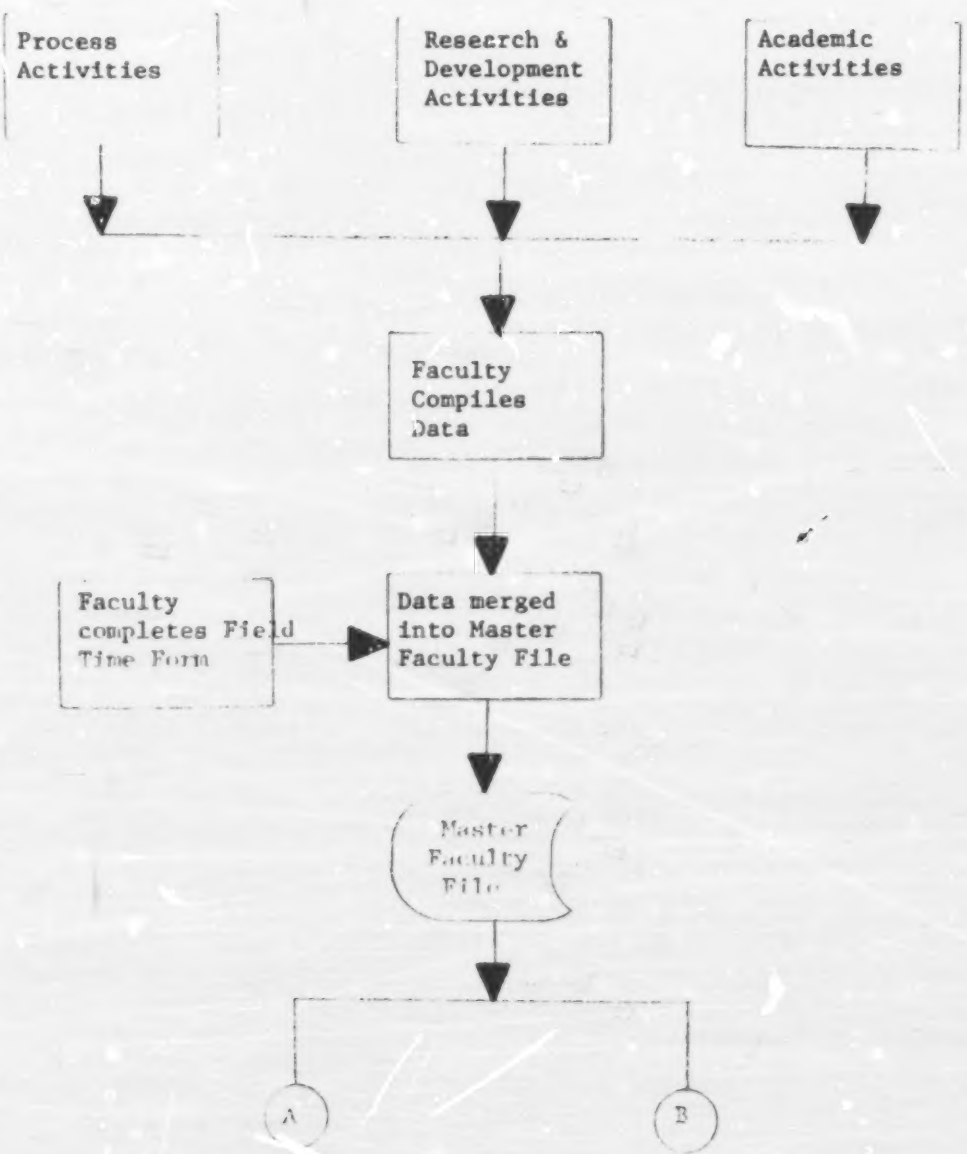
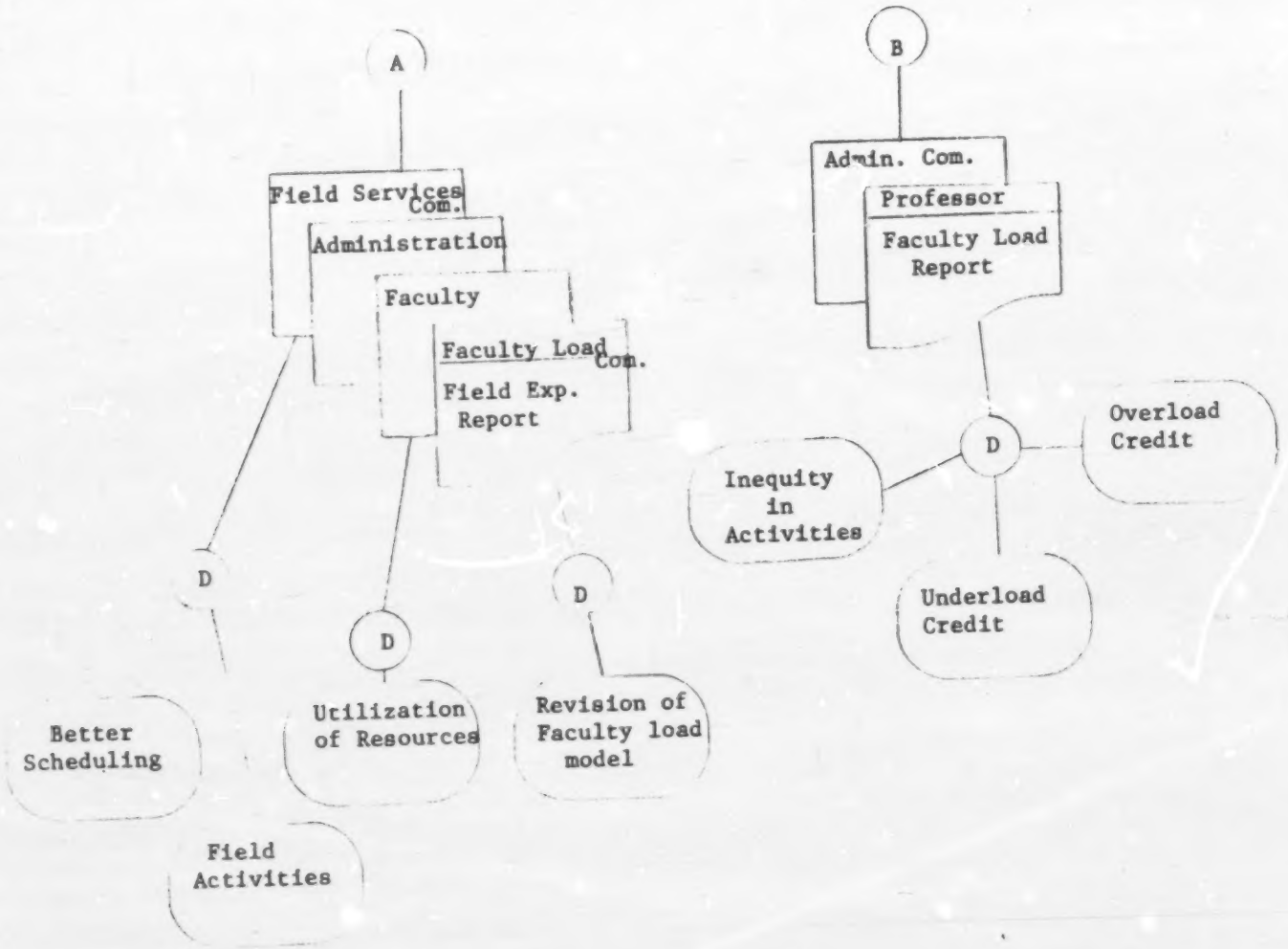


Figure 6...Flowchart of Faculty Load Subsystem




A
Field Services Com.
Administration
Faculty
Faculty Load Com.
Field Exp. Report
D
D
D
Better Scheduling
Utilization of Resources
Revision of Faculty load model
Field Activities
B
Admin. Com.
Professor
Faculty Load Report
D
Overload Credit
Inequity in Activities
Underload Credit

Instructional Management Subsystem

This subsystem includes instructional activities that take place on campus versus the Field Experiences Subsystem that includes all instructional activities off campus.

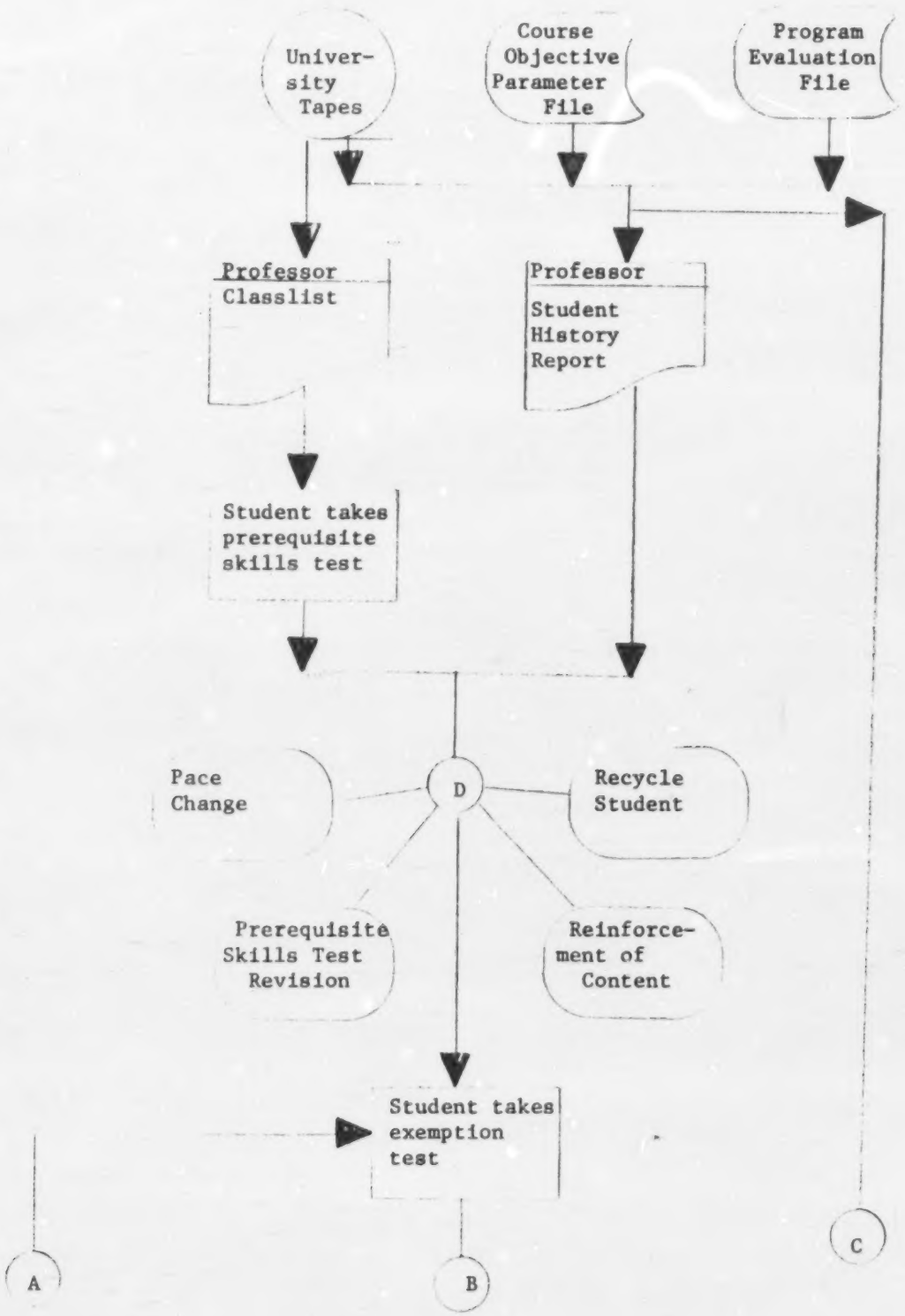
A competency-based program does, in fact, necessitate more record keeping than the traditional program. Thus, the primary goal of this subsystem is to eliminate as much manual record keeping as possible on the part of the faculty, but at the same time provide information on the status of each student as he progresses through the program, as well as sufficient data for formative and summative evaluation. Figure 7 shows the progresion of data and the resultant reports for this subsystem.

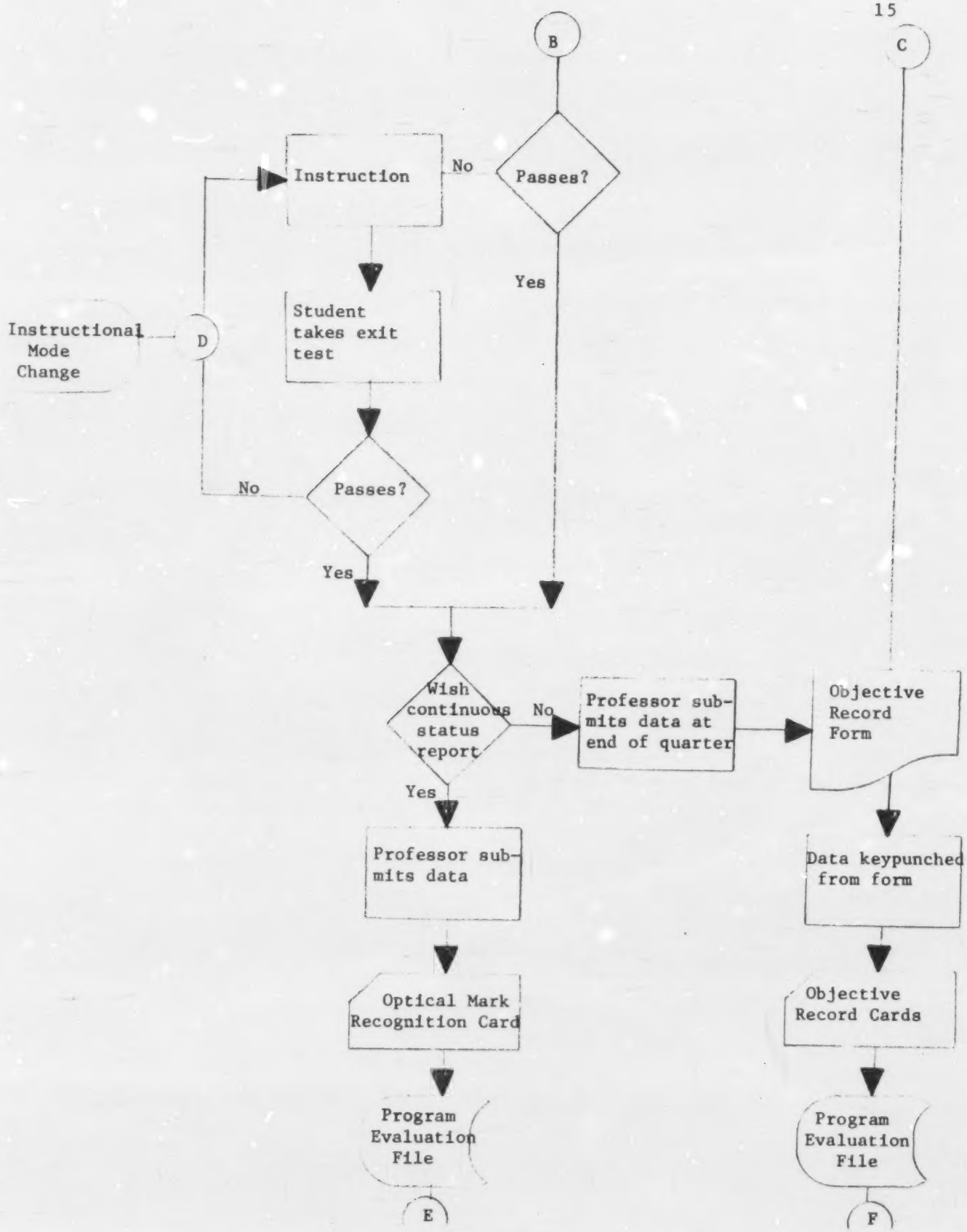
Classlists (Appendix B) are computer-generated from the university registration magnetic tapes. The classlists are combined with the data in the Course Objective Parameter File (discussed below) to produce the Objective Record Form (Appendix C).

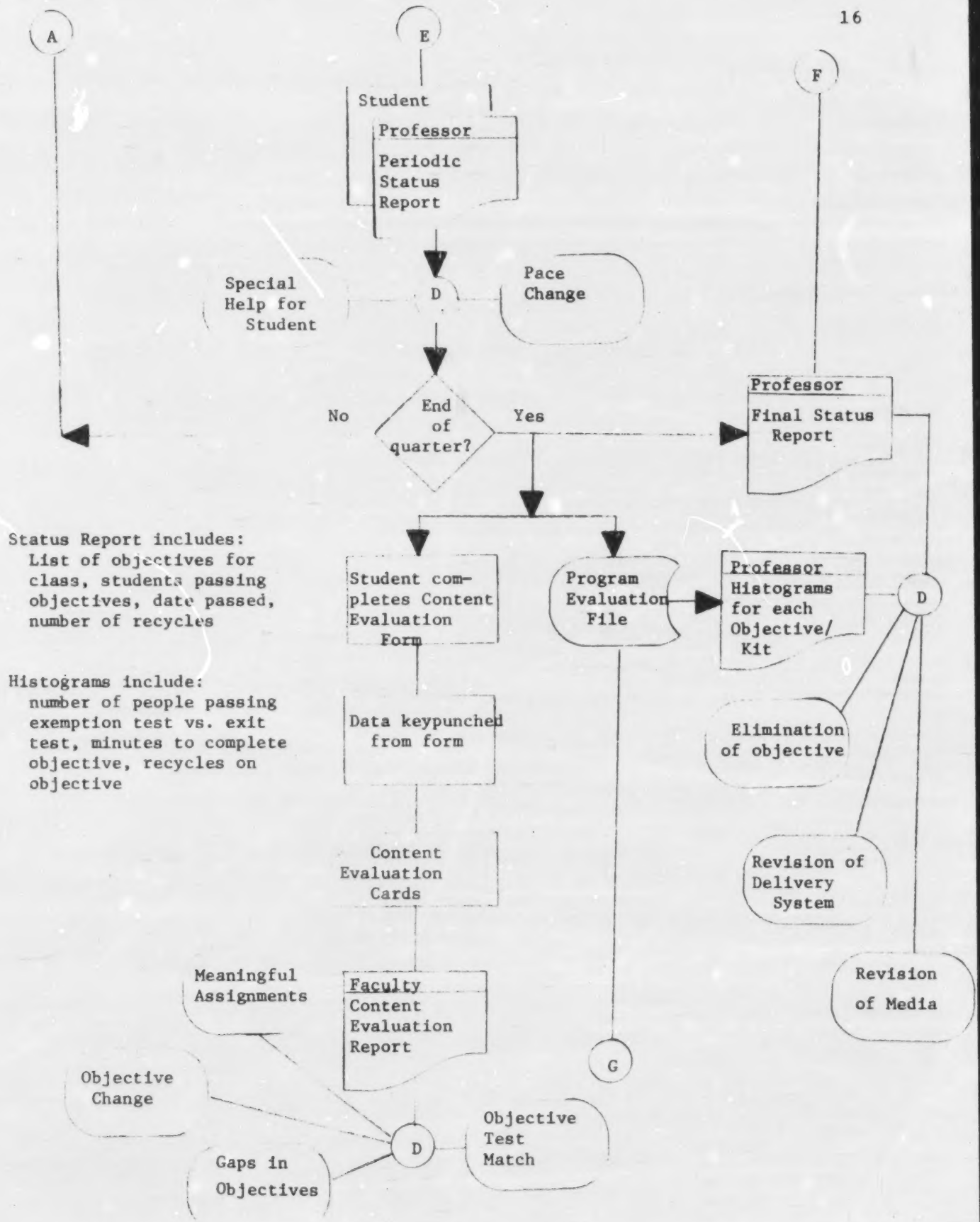
At the beginning of the quarter, the professor recieves the History Report (Appendix D) which lists the students enrolled in the class and the historical record of each student. It lists the objectives that should have been completed and how the student performed on each. Those objectives that are directly prerequisite to the objectives in the course are indicated by an asterick. This information, along with the results of the prerequisite skills test, provide the faculty with decision-making capabilities concerning remedial work and reinforcement.

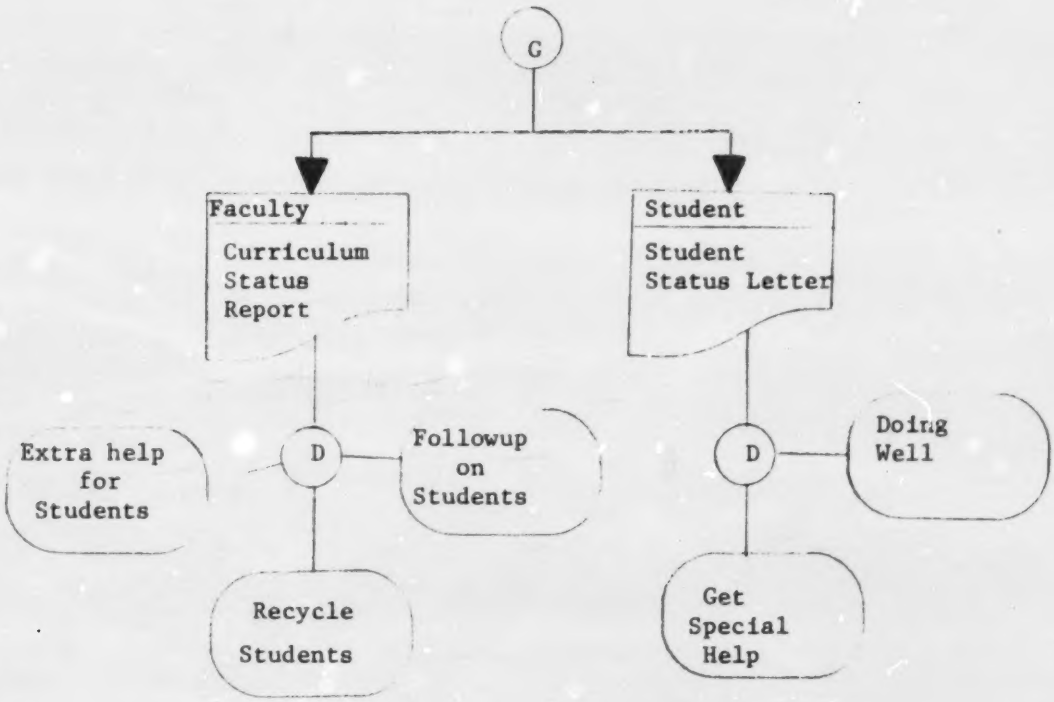
A faculty member has his choice of methods for submitting objective completion data. He may use the Objective Record Form which is a computerized grade book. It allows the faculty member to submit

Figure 7...Flowchart of Instructional Subsystem (On-campus Activities) 14




B
C
Instruction
No
Passes?
Yes
Instructional Mode Change
D
Student takes exit test
No
Passes?
Yes
Wish continuous status report
No
Professor submits data at end of quarter
Objective Record Form
Yes
Professor submits data
Data keypunched from form
Optical Mark Recognition Card
Objective Record Cards
Program Evaluation File
Program Evaluation File
E
F


A
E
F
Student
Professor
Periodic Status Report
Special Help for Student
D
Pace Change
No
End of quarter?
Yes
Professor
Final Status Report
Status Report includes: List of objectives for class, students passing objectives, date passed, number of recycles
Histograms include: number of people passing exemption test vs. exit test, minutes to complete objective, recycles on objective
Student completes Content Evaluation Form
Program Evaluation File
Professor Histograms for each Objective/ Kit
D
Data keypunched from form
Elimination of objective
Content Evaluation Cards
Revision of Delivery System
Meaningful Assignments
Faculty Content Evaluation Report
Revision of Media
G
Objective Change
D
Objective Test Match
Gaps in Objectives



Curriculum Status Report includes:
Each student in curriculum area, all objectives completed, date of completion, objectives not completed, recycles, flagged problem students

Student Status Letter includes:
All objectives, completion of objective, date of completion, special message indicating next steps for student to take

his data for all his students in one class at the end of the quarter. The data is keypunched directly from the form and then merged into the Program Evaluation File.

If the faculty member chooses to submit the data on a single student for a single objective or individualized instructional module, he may use the Optical Mark Recognition (OMR) Card (Appendix E). This same card may also be used for those students who receive an "Incomplete" in a class and complete single objectives after the Objective Record Form has been submitted.

The OMR card may be submitted on a periodic basis during the quarter if the faculty member wishes to receive on a regular basis a computerized status report of how each student is progressing. Appendix F is an example of this report. It shows either the objectives or modules the student has completed to date and those which he still must complete.

At the end of the quarter, the Status Letter (Appendix G) is sent to the student. It reports which objectives he has completed, and which objectives he has not completed with some suggestions to help him complete them successfully.

Histograms are provided for all faculty, regardless of whether they report completion of single objectives or completion of modules. The report gives histograms of the number of people completing exemption tests or exit tests on each objective, number of times recycled through instruction, and time spent to complete each objective. The report also shows the time period during the quarter when each objective was completed. This provides input for sequencing decisions within a course.

The Curriculum Status Report of Students (Appendix H) is provided to each curriculum area to show which students are completing objectives satisfactorily and on schedule, which students are behind schedule, and which students have not completed any objectives for a period of time. These students are flagged. The data from this report may be used for counseling purposes or followup on inactive students.

The data collected in the above system provides feedback for program revision, delivery system and materials revision, as well as counseling and followup information to be used by the faculty.

Field Experiences Subsystem

The primary goals of the data collection in the Field Experiences Subsystem are to ensure that the intern teacher's progress is known by the University supervisor at all times, to assist in the allocation of the faculty member's time to best advantage, to provide constant feedback for revising and providing relevant content for the seminar that accompanies the intern teaching experience, and to serve as a guidance device for the public school-university team.

The student is given a set of OMR cards (discussed above) at the beginning of the teaching experience. The student, cooperating teacher, and the university supervisor (at designated times) evaluate the student's performance with respect to the test for each objective. These cards serve as direct input into the computer.

A weekly status report containing the progress of the intern teachers is generated for the university supervisors. This same information is provided to the student and cooperating teacher on a less frequent basis.

The same kind of data is collected during the field experiences prior to intern teaching. We believe that some of our best predictive data will be collected from these experiences. We hope to determine whether there are certain levels of performance at this point which will enable us to predict the successful teacher.

Program Evaluation Subsystem

Feedback is provided for virtually all phases of the program, beginning with eachobjective, delivery system, exit test, and finally concluding with the evaluation of success of the students of the Department's graduates. Students complete the Content Evaluation Questionnaire (Appendix I) during the quarter as they progress through the objectives. This data is then keypunched from the form and entered into the computer, resulting in the Content Evaluation Report. This report is used as one basis for objective and test revision.

Our data collection and analysis are being kept within the scope of what actually has an effect on Departmental operations and decisions. Appendix J shows some of the kinds of questions that we are trying to answer through this subsystem.

Data Bank Development

The data bank consists of six computerized files--the Master Student File, the Plan of Work File, the Master Faculty File, the Course Objective and Parameter File, the Program Evaluation File, and the Followup File. The contents of each file are shown in Figure 8.

All of the data in the Master Student File are obtained from university registration magnetic tapes. The file is updated at the

Figure 8...Contents of Data Files

Contents of Master Student File

Admission Date
Social Security Number
Name
Address
Telephone
Sex
Marital Status
Birthday
Graduate
Senior College
Resident
College
Curriculum Area
Rank
Cumulative honor point total
Cumulative resident hours
Cumulative total hours
Cumulative honor point base
Number of courses recorded

For each course taken:
Quarter and year course taken
Section number
Grade received
Withdrawal code
Graduate/undergraduate code
Credit hours
Course number
Length of course in weeks

Contents of Plan of Work File

New/revised plan
Curriculum area
Rank
Social security number
Name
Address
Telephone number
Quarter admitted to department
Expected graduation date
Date plan was made or revised

For each VAE course scheduled:
Course number
Quarter expected to take
Year expected to take

For each non-VAE course:
Course number

Contents of Course Objective Parameter File

For each objective of program:
Objective Number
Course where taught
Field tested/campus tested objective
Kit in which objective is taught
Prerequisite objectives
Competencies to which objective is matched
Description of objective

Contents of Program Evaluation File

Social security number
Name

For each objective in program:
Objective number
Quarter started objective
Date completed objective
Time to complete objective
Number of recycles
Grade code
(1) Passed exemption test
(2) Did not pass exemption test-passed exit test
(3) Passed exemption test - passed exit test

Contents of Master Faculty File

Social security number
Name
Curriculum area
Highest degree held
Specialties
Preferred courses to teach

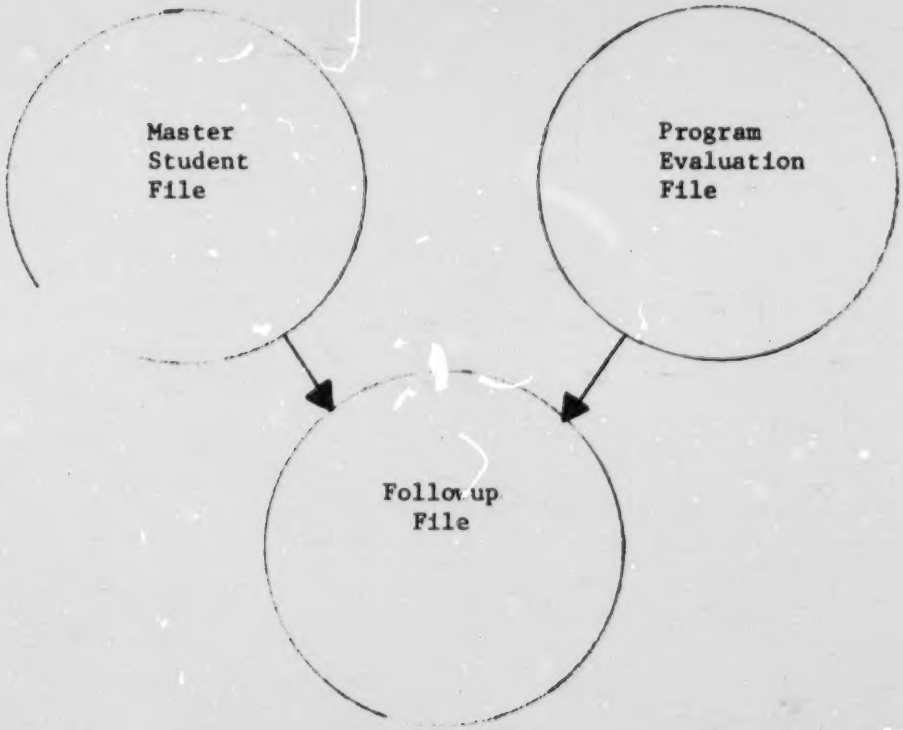
For each course taught:
Course number
Section number
Quarter taught
Year taught
Number of students in class
Field time(hours and minutes)
Credit hours of course
Team taught
Faculty load credit for instructional mode according to VAE model for each quarter
Faculty load credit for each quarter according to WSU model

For each committee to which professor belongs:
Committee code number
Quarter he belonged
Year he belonged

Faculty load credit for Process Group for each quarter according to VAE Model

For each research and development activity:
Activity code number
Quarter performed
Year performed
Units received
Faculty load credit for R&D group for each quarter according to VAE model
Total faculty load for each quarter according to VAE model

Contents of Followup File



beginning and end of each quarter, adding new courses and grades, and changing the appropriate profile data. This updating is performed by a computer program and utilizes very little clerical time. Graduates are transferred from the appropriate file to the followup magnetic tape file once per year. Inactive students (those who have not taken a course within the past two years) are removed from the file by a computer program and their records are microfilmed.

In addition to the regular profile programs, scheduling program, and other output which have been discussed, there is a conversational program available which allows the faculty to stipulate any of thirteen parameters in the Plan of Work File and the Master Student File and utilize them in all possible combinations up to all thirteen at one time. A multiplicity of reports can be generated within a few minutes.

The criteria for assessing the value of the data and thus assisting us in making the decision as to the continuance of the collection are: (1) validity--is the information what the faculty needs? (2) reliability--is the information reproducible? (3) timeliness--is the information available when the faculty needs it? (4) pervasiveness--does the information reach people who need it? and (5) credibility--is the information trusted by the faculty?[1]

The system utilizes two IBM 360, Model 67, computer systems with Fairchild semiconduit memories. The Department has access to three UCC 1135 terminals and an IBM Magnetic Card Communicating Typewriter.

All data files except the Followup File are located on disk storage, thus allowing us on-line access. In addition, all program files used frequently by staff and faculty are stored on disk. Backups of all files are stored on magnetic tapes.

Development of Documentation

The key to the successful operation of a system is the documentation. The major criteria for the writing of the manuals have been (1) ease in reading and understanding, and (2) quick access to information.

There are four manuals: (1) Faculty Manual (2) System Operations Manual (Technical Section and Non-technical Section (3) Equipment Operations Manual (4) Instructional System Manual

The manuals include such things as summary and detailed flowcharts of the various tasks, hardware specifications, software including forms and computer programs, performance specifications where appropriate, performance schedules, cost of execution where appropriate, procedures for modification of the system, decision tables, and a complete digest of the instructional and MIS design.

Summary

Designing and implementing a Management Information System is not easy. It is frustrating and time consuming; however, I am convinced that competency-based education programs will be a casualty for want of adequate information to support vital decisions unless Management Information Systems are utilized.

FOOTNOTES

1. Stufflebeam, Daniel, "Toward A Science of Educational Evaluation," Educational Technology, July 30, 1968.

BEST COPY AVAILABLE

Appendix A

CERTIFICATION PLAN OF WORK-UNDERGRADUATE
BUSINESS AND DISTRIBUTIVE EDUCATION

NEW PLAN [1] BED 1 4 1 0 3

REVISED PLAN [2] DED 1 4 3 0 3

ID NUMBER (6-Digit ID) | SOCIAL SECURITY NUMBER | LAST NAME | FIRST NAME

ADDRESS | CITY | STATE | ZIP | PHONE

QUARTER ADMITTED TO DEPARTMENT (YR MO) | EXPECTED GRADUATION DATE (YR MO) | TODAY'S DATE (YR MO)

General Professional Education:

Required Courses	F	W	Sp	Su	QUARTER & YEAR
1) VAE 5181 CAREER ED (4)	9	1	4	6	19
2) ED 5825 FOUND. ED (8)	9	1	4	6	19
3) VAE 5133 BE PRACT (4)	9		4		19
4) VAE 5134 BE PR GB (4)	9		4		19
5) VAE 4192 INTERN TCHG.(2-18)	9	1			19
6) VAE 4183 SEMINAR (4)	9	1			19
7) EHP 3601 PHIL. ED (4)	9	1			19
VAE *Electives*					
8) VAE 4196 DIRECTED ST(2-12)	9	1	4	6	19
9) VAE 5131-5151 PRIN (4)	9	1	4	6	19
10) VAE 6133-6153 SP PR BE(1-10)		1	4	6	19
11) VAE 6136-6156 FIELD ST(2-12)	9	1	4	6	19
12) VAE 6153-6155 TCHG DP(2-10)				6	19
13) VAE 6192 COOP. WORK ST(8)				6	19
14) VAE 6192 COOP. WORK ST(6)				6	19
15) VAE 6198 COOR. OCC. (4)		1		6	19
16) _____	9	1	4	6	19
17) _____	9	1	4	6	19

COMPLETED WORK EXPERIENCE (2 YR/4000 HRS)(SOME HOURS MUST HAVE BEEN COMPLETED WITHIN THE PAST FIVE YEARS)

YES _____ NO _____

COMMENTS: _____

_____

_____

THIS PLAN OF WORK IS AN AGREEMENT BETWEEN THE STUDENT AND THE VAE DEPARTMENT. IT MAY NOT BE CHANGED UNILATERALLY. ALL CHANGES MUST BE MADE IN WRITING.

STUDENT'S SIGNATURE: _____

ADVISER'S SIGNATURE: _____

ADMINISTRATIVE COMMITTEE ACTION:

APPROVED___ NOT APPROVED___ DATE_____ SIGNED_____

TEACHING MAJOR (56 QH) (INCLUDES VAE 5134)

REQUIRED COURSES (Circle Needed Courses)

- GB 0160/MGT 0360/ 0262
- GB 0520
- GB 0532
- GB 0567
- ACC 0310

• BE/DE
•• DE

ELECTIVES (24 QH)

1) _____
2) _____
3) _____
4) _____

- MKT 0342
- MKT 0549
- FAC 0571
- FAC 0540
- FAC 0547
- FAC 0548
- FAC 0549

TEACHING MINOR (36 QH)

	NEEDS	
ECONOMICS (18 QH)	_____	QUAR HRS
SOC. SCI. ELEC(10 QH)	_____	QUAR HRS
OTHER: _____	_____	QUAR HRS

GENERAL EDUCATION (36 QH)

ENGLISH ELEC(16 QH)	_____	QUAR HRS
SPEECH (8 QH)	_____	QUAR HRS
PSYCHOLOGY (4 QH)	_____	QUAR HRS
HYGIENE (3 QH)	_____	QUAR HRS
PHYS ED (3 QH)	_____	QUAR HRS

SUMMARY

	Req.	Had	Needs
1. Gen. Educ.			
A. TEACHING MINOR	36		
B. GEN. EDUC.	36		
2. PROF. EDUC.	40		
3. TEACHING MAJOR	56		
4. ELECTIVES			
TOTALS: (Min. 186 QH)			

CLASS LIST FOR VAE 6195 23179

ID	TERM	NAME	STREET	CITY	STATE	ZIP	PHONE	MAJOR	PAGE
369462087	739	BOASE, DANIEL REX	25136 CROWLEY	TAYLOR	MICH	48180	0000292624	148	52
376382852	739	BOND, LINDA DIANE LEE	4824 PINEHURST DR	BRIGHTON	MICH	48116	0000299268	148	3
380289377	739	BRUCKER, RICHARD ARLEN	28661 DESMOND	WARREN	MICH	48093	0000573628	181	52
7561470	739	CAMPBELL, DAVID LEWIS	BOX 425	FOREST	ONT	0	0000243264	148	52
511585429	739	CHELLAMMAL, DEVASAGAYAM	2548 SECOND APT 17	DETROIT	MICH	48201	0000961649	148	3
366502287	739	CURTIS, ALBERT	36659 POLLARD DR	STERLING HGT	MI	48077	0000939211	148	51
373501193	739	DEDISCHEW, JAMES FRANCIS	91 MIRABEAU	ROCHESTER	MICH	48063	0000651462	148	51
382461596	739	DENHARD, DOUGLAS EDWARD	49301 SCHOENHERR	UTICA	MICH	48087	0000739458	148	52
575462060	739	EDWARDS, JESSE IVEY	19993 IRVINGTON	DETROIT	MI	48203	0000693176	403	51
249180	739	FERRIS, WILLIAM F	19918 REGENT	DETROIT	MICH	48205	0000526861	148	52
405230	739	GIBSON, REVA A B	BOWSER, 20211 BENTLER	DETROIT	MICH	48219	0000538476	141	54
149248	739	HEASCHELMANN, RUSSELL	583 BARRINGTON	GROSSE PTE PK	MICH	48230	0000824345	0	53
370484348	739	LUDWIG, DONALD G	10862 PINE ST BLDG 10	TAYLOR	MICH	48180	0000291531	148	52
363223	739	MELLET, JAMES PATRICK	1016 MAPLEGROVE	ROYAL OAK	MICH	48067	0000399762	141	51
422463432	739	MURPHY, JOSEPH,JR	5589 PRESCOTT	DETROIT	MI	48212	0000368157	148	51
288495	739	MUSSON, KENNETH JAMES	1950 S CLAIR BLVD	ALGONAC	MICH	48001	0000794793	148	51
363442736	739	PETERS, THOMAS ARNOLD	50685 JEFFERSON	NEW BALTIMORE	MICH	48049	0000725445	181	52
383384137	739	PRESTON, SARA F HARRIS	4300 LESLIE	DETROIT	MICH	48238	0000934899	148	4
375507788	739	SAWASKY, THOMAS FRANCIS	42224 PARKSIDE CIR #201	STERLING HGTS	MI	48078	0000739641	148	52
161382347	739	SMITH, JOSEPH WENDELL	18643 RUTHERFORD	DETROIT	MI	48235	0000273196	181	51

THERE ARE 20 STUDENTS ENROLLED

KEY

MAJOR

141 BUSINESS EDUCATION
143 DISTRIBUTIVE EDUCATION
147 FAMILY LIFE EDUCATION
148 INDUSTRIAL EDUCATION
181 VOCATIONAL EDUCATION
183 CURRICULUM DEVELOPMENT
195 BUSINESS EDUC MAT
196 DISTRIBUTIVE EDUC MAT
400 FAM LIFE MAT
403 INDUS EDUC MAT

Appendix B

TO FACULTY

IF SOCIAL SECURITY NUMBER IS MISSING, PLEASE ASK STUDENT FOR NUMBER AND WRITE IT IN THE APPROPRIATE COLUMN. IF THERE ARE ANY VAE STUDENTS MISSING, ADD THEM AT THE BOTTOM. CROSS OUT ANY WITHDRAWALS AND NON-VAE STUDENTS. DO NOT RECORD DATA FOR NON-VAE STUDENTS.

IF STUDENT PASSED THE EXEMPTION TEST, CIRCLE THE P IN THE APPROPRIATE COLUMN. YOU MAY USE THE ADDITIONAL STUDENT DATA COLUMN ANY WAY YOU WISH. IF THE STUDENT HAS NOT PASSED THE EXEMPTION TEST, IT IS ASSUMED THAT HE MUST GO THRU THE INSTRUCTIONAL PHASE AT LEAST ONCE. THE NO. OF RECYCLES COLUMN REFERS TO THE NUMBER OF TIMES A STUDENT WENT THRU THE INSTRUCTION IN ADDITION TO THE FIRST TIME.

WHEN THE STUDENT PASSES THE EXIT TEST, CIRCLE THE P IN THE APPROPRIATE COLUMN AND WRITE IN THE YEAR (LAST TWO DIGITS OF YEAR, AND THE NUMBER OF THE MONTH). IF THE STUDENT HAS PASSED THE OBJECTIVE PRIOR TO THIS QUARTER, PASSED IS PRINTED IN THE EXIT TEST COLUMN WITH THE DATE WHEN IT WAS PASSED INDICATED.

VAE RECORD SHEET FOR OBJECTIVE DATA
COURSE: 4192 SECTION: 23014
QUARTER: 739

SOCIAL SECURITY	NAME	OBJECTIVE NUMBER	EXEMPTION TEST	ADDITIONAL STUDENT DATA	NUMBER OF MINUTES TO COMPLETE OBJECTIVE	NUMBER OF RECYCLES	EXIT TEST	DATE PASSED (YR MO)	
CC 1-9	CC 10-25	CC 26-30	CC 31		CC 32-36	CC 37	CC 38	CC 39-42	CC 43-51
362546898	BAIRD, DAVID J	9800	F				P		419223014
"	"	9801	P				P		419223014
"	"	9802	P				P		419223014
"	"	9803	P				P		419223014
"	"	9804	P				F		419223014
"	"	9805	P				P		419223014
"	"	9806	P				P		419223014
"	"	9807	P				P		419223014
"	"	9808	P				P		419223014
"	"	9809	P				P		419223014
"	"	9810	P				P		419223014

HISTORY REPORT FOR 5195

THESE STUDENTS ARE ENROLLED IN 5195 THIS QUARTER. THE OBJECTIVES LISTED ARE THOSE COVERED IN COURSES WHICH ARE PREREQUISITE TO 5195.

365367882 JACKSON, DELORES	PREREQUISITE TO 5195	NUMBER OF RECYCLES	DATE PASSED
01001 DEFINE AND GIVE EXAMPLES OF CBE TERMS	•		7307
01002 DEFINE PERFORMANCE OBJECTIVE	•		7307
01003 WRITE PERFORMANCE OBJECTIVES	•		7307
01004 TASK ANALYSIS OF ENTRY LEVEL JOB	•		7307
01005 ANALYZE CONTENT OF COURSE	•	1	7307
01006 DEMONSTRATE PRODUCTION SKILLS	•		7308
01007 OPERATE INSTRUCTIONAL EQUIPMENT	•		7308
01008 DESCRIBE TEACHER-PERFORMED TASKS	•		7307
01009 COMPARE TEACHER TASKS WITH COMPETENCIES			7307
01010 DESCRIBE COMMITMENT TO TEACHING			7307
01011 DEVELOP POSITION STATEMENT ON COMMITMENT			7307
01012 DEMONSTRATE WRITTEN COMMUNICATION SKILLS		1	7308
01013 PARTICIPATE IN PROFESSIONAL ORGANIZATIONS			7307

365565813 LUBER, MAGGIE			
01001 DEFINE AND GIVE EXAMPLES OF CBE TERMS	•		7307
01002 DEFINE PERFORMANCE OBJECTIVE	•		7307
01003 WRITE PERFORMANCE OBJECTIVES	•	1	7308
01004 TASK ANALYSIS OF ENTRY LEVEL JOB	•		7307
01005 ANALYZE CONTENT OF COURSE	•	2	
01006 DEMONSTRATE PRODUCTION SKILLS	•		7307
01007 OPERATE INSTRUCTIONAL EQUIPMENT	•		7307
01008 DESCRIBE TEACHER-PERFORMED TASKS	•		7308
01009 COMPARE TEACHER TASKS WITH COMPETENCIES			7308
01010 DESCRIBE COMMITMENT TO TEACHING			7307
01011 DEVELOP POSITION STATEMENT ON COMMITMENT			7307
01012 DEMONSTRATE WRITTEN COMMUNICATION SKILLS			7307
01013 PARTICIPATE IN PROFESSIONAL ORGANIZATIONS			7307

Appendix D

Appendix E

NOTE ▶ COMPLETE INFORMATION ON REVERSE SIDE

SOC. SEC. NUMBER	COURSE	SECTION	OBJECTIVE NUMBER / KIT NO	EXEMPTION TEST PASSED	COMPLETION TIME IN MINUTES	NO. OF RECYCLES BEFORE EX. TEST PASSED	EXIT TEST PASSED	DATE TEST PASSED YEAR / MO.
0 0 0 0 0 0 0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0 0	PASSED	0 0 0 0 0	0	PASSED	0 0
1 1 1 1 1 1 1 1 1	1 1 1 1	1 1 1 1 1	1 1 1 1 1	1	1 1 1 1 1	1	1	1 1
2 2 2 2 2 2 2 2 2	2 2 2 2	2 2 2 2 2	2 2 2 2 2		2 2 2 2	2		2
3 3 3 3 3 3 3 3 3	3 3 3 3	3 3 3 3 3	3 3 3 3 3		3 3 3 3	3		3 3
4 4 4 4 4 4 4 4 4	4 4 4 4	4 4 4 4 4	4 4 4 4 4		4 4 4 4	4		4 4
5 5 5 5 5 5 5 5 5	5 5 5 5	5 5 5 5 5	5 5 5 5 5		5 5 5 5	5		5 5
6 6 6 6 6 6 6 6 6	6 6 6 6	6 6 6 6 6	6 6 6 6 6		6 6 6 6	6		6 6
7 7 7 7 7 7 7 7 7	7 7 7 7	7 7 7 7 7	7 7 7 7 7		7 7 7 7	7		7 7 7
8 8 8 8 8 8 8 8 8	8 8 8 8	8 8 8 8 8	8 8 8 8 8		8 8 8 8	8		8 8
9 9 9 9 9 9 9 9 9	9 9 9 9	9 9 9 9 9	9 9 9 9 9		9 9 9 9	9		9 9

IBM 805555 R05440

COURSE STATUS REPORT FOR 4143
QUARTER: 734

		OBJECTIVE NOT PASSED	NUMBER OF RECYCLES	DATE PASSED
365583080	MULLER, CONSTANCE			
06500	INTERVIEWS PARENTS, PUPILS, SCHOOL PERSONNEL			7304
06501	MATCH NEEDS WITH LEARNING EXPERIENCES		1	7306
06502	DISCUSS SOCIETAL CHANGES WITH VAE			7305
06503	TEACH LESSON			7305
06504	IDENTIFY MANAGEMENT PROCEDURES IN SCHOOL			7305
06505	DESCRIBE CLASSROOM MANAGEMENT PROCEDURES			7306
06506	PARTICIPATE IN PROFESSIONAL MEETINGS	•		
366402169	COLE, JOHNNIE			
06500	INTERVIEWS PARENTS, PUPILS, SCHOOL PERSONNEL			7304
06501	MATCH NEEDS WITH LEARNING EXPERIENCES	•		
06502	DISCUSS SOCIETAL CHANGES WITH VAE			7304
06503	TEACH LESSON		2	7307
06504	IDENTIFY MANAGEMENT PROCEDURES IN SCHOOL			7305
06505	DESCRIBE CLASSROOM MANAGEMENT PROCEDURES	•		
06506	PARTICIPATE IN PROFESSIONAL MEETINGS	•		

VOCATIONAL & APPLIED ARTS EDUC.
WAYNE STATE UNIVERSITY
421 EDUCATION BUILDING
DETROIT, MI 48202

100160642
RONAI, KURT
13021 ALBANY
OAK PARK MICH 48237

BELOW IS A LIST OF THE OBJECTIVES WHICH ACCORDING TO OUR RECORDS YOU WERE SCHEDULED TO HAVE COMPLETED BY NOW. WILL YOU PLEASE CHECK IT FOR ACCURACY. IF IT IS INCORRECT, PLEASE CALL ME AT 577-1801.

OBJECTIVE		COURSE	DATE PASSED
01001	DEFINE AND GIVE EXAMPLES OF CUE TERMS	5191	7307
01002	DEFINE PERFORMANCE OBJECTIVE	5191	7307
01003	WRITE PERFORMANCE OBJECTIVES	5191	7307
01004	TASK ANALYSIS OF ENTRY LEVEL JOB	5191	
01005	ANALYZE CONTENT OF COURSE	5191	
01006	DEMONSTRATE PRODUCTION SKILLS	5191	7308
01007	OPERATE INSTRUCTIONAL EQUIPMENT	5191	7306
01008	DESCRIBE TEACHER-PERFORMED TASKS	5191	7307
01009	COMPARE TEACHER TASKS WITH COMPETENCIES	5191	7307
01010	DESCRIBE COMMITMENT TO TEACHING	5191	7307
01011	DEVELOP POSITION STATEMENT ON COMMITMENT	5191	7307
01012	DEMONSTRATE WRITTEN COMMUNICATION SKILLS	5191	7307
01013	PARTICIPATE IN PROFESSIONAL ORGANIZATIONS	5191	

I NOTICE YOU HAVE NOT COMPLETED ALL THE OBJECTIVES FOR WHICH YOU HAVE BEEN SCHEDULED. THESE MUST BE PASSED BEFORE YOU WILL BE CERTIFIED. PLEASE TALK WITH PROFESSOR FRANK LANHAM ABOUT COMPLETING THESE OBJECTIVES.

VAE RECORDS SECRETARY

Appendix G

CURRICULUM AREA STATUS REPORT
INDUSTRIAL EDUCATION
QUARTER ENDING: 736

THIS IS A LIST OF ALL UNDERGRADUATES IN THE MASTER STUDENT FILE IN THE ABOVE CURRICULUM AREA AND THE HISTORY OF EACH FOR OBJECTIVE COMPLETION. THOSE PEOPLE WITH ONE STAR HAVE NOT COMPLETED ALL OBJECTIVES FOR WHICH THEY HAVE ENROLLED, OR THEY ARE TAKING COURSES OUT OF SEQUENCE. THOSE WITH TWO STARS HAVE NOT COMPLETED ANY OBJECTIVES FOR TWO QUARTERS.

OBJECTIVE	COURSE	RECYCLES	DATE PASSED	OBJECTIVE	COURSE	RECYCLES	DATE PASSED	OBJECTIVE	COURSE	RECYCLES	DATE PASSED
* 191349654 MOORE, GERALD											
01001	5191		7211	01002	5191	1	7211	01003	5191		7211
01004	5191		7211	01005	5191		7210	01006	5191	2	7210
01007	5191	1	7211	01008	5191		7210	01009	5191	1	7211
01010	5191		7211	01011	5191	1	7211	01012	5191		7210
01013	5191		7211	02100	5195		7302	02103	5195	1	7302
02104	5195	2	7304	02105	5195		7303	02106	5195		7303
02107	5195		7304	02109	5195		7303	02110	5195	2	7303
02111	5195	3	7304	02112	5195		7302	02113	5195		7303
02114	5195	1	7304	02115	5195	2	7303	02116	5195		7303
02117	5195		7303	02118	5195		7303	02119	5195	2	7304
02120	5195		7304	02121	5195	1	7304	02122	5195		7304
02123	5195	1	7304	02124	5195	1	7304	02125	5195		7304
02126	5195		7304	02127	5195	1	7304	02128	5195		7304
02129	5195		7304	02130	5195		7304	02131	5195	2	7304
02132	5195	1	7304	07600	5187		7304	07601	5187		7304
07602	5187	1	7305	07603	5187		7305	07604	5187		7305
07605	5187		7305	07606	5187		7306	07607	5187		7305
07608	5187		7306	07609	5187		7306	07610	5187		7305
07611	5187		7306	07612	5187		7306				
* 232649261 MAYSE, DAVID											
01001	5191		7307	01002	5191	1	7307	01003	5191		7307
01004	5191	2	7308	01005	5191		7307	01006	5191		7307
01007	5191			01008	5191		7307	01009	5191		
01010	5191	3	7308	01011	5191	3	7308	01012	5191		
01013	5191	3									

Appendix H

Appendix I

Content Evaluation Questionnaire

1. Did prerequisite courses, if any, give you an adequate foundation in meeting the objectives of this course?

   Yes No No Prerequisite Requirements

2. Was adequate time, materials, and facilities provided for you to achieve this objective?

   Yes No

3. How meaningful were the assignments in relation to the mastery of this objective?

Assignments were helptul in attain-Mastery	Assignments Helped some but could be improved	Could have mastered objec-tive without completing assignments	Uncertain

4. How appropriate were the methods (kits, films, etc.) used in conveying the instruction to master this objective?

Appropriate-- I liked them	Were OK but I prefer other methods	Were Inappropriate	Uncertain

5. Did the exit test accurately measure the behavior sought in this objective?

   Yes No

6. Do you feel you have really mastered this objective?

Yes feel very competent	Yes but need some reinforcement	Yes but need much more instruction	Did not pass exit test

7. In hindsight do you think you could have passed the exemption test on this objective at the beginning of the quarter without receiving instruction?-

   Yes No

8. Do you feel this objective is essential to your teaching preparation?

   Yes No

STRATEGIES FOR PROGRAM EVALUATION
Major Questions to be Answered through Data Analysis

I. REFERRAL SUBSYSTEM

1. Is there a change over a period fo time in the demographic and academic characteristics of students when they enter the Department?
2. If there are changes, are they systematic?
3. Are these changes corrlated with any trends in other variables?
4. Is it possible to predict the students who apply for admission, make a plan of work, and never show up for classes? What kind of characteristics does he have? What happens that causes him to go elsewhere rather than here?
5. What is the percentage level of dropouts at the various points in the sequence?
6. Is there a significant difference between those dropping out and those not dropping out in terms of age, sex, and HPA?
7. Are there other relevant variables which may be causing the dropping out?
8. Is there any change in characteristics of dropouts and reasons for dropouts over a period of time?
9. What attempts are being made to reduce the dropout problem and how successful are they?

II. INSTRUCTIONAL SUBSYSTEM

1. What is the relationship from quarter to quarter between achievement levels of each class as measured by number of students completing objectives within time limit, number of recycles through instruction?
2. Do delivery systems differ in the degree to which students achieve in terms of objectives completed, time to complete them, and number of recycles?
3. What combination of delivery system with student characteristics seems to provide minimum or maximum achievement?

4. What is the predictive validity of the achievement of VAE objectives with overall HPA?

5. What is the predictive validity of the achievement of VAE high level obejctives with overall HPA?

6. How comparable are the resuls of the various methods class with the achievement on the various facets of the intern

7. How consistent is the achievement of single individuals from course to course?

8. What is the relationship between the attitudes of the faculty and the students achievement on the objectives?

9. What are the characteristics possessed by individuals who pass the exemption tests?

III. INTERN TEACHING SUBSYSTEM

1. What is the relationship between the achievement of the student teacher test and achievement in prior porfessional courses?

2. What is the relationship between the achievement of the student teaching test and the achievement of the prior field experiences?

3. What is the relationship between the attitudes of the cooperating theacher and the achievement on the student teaching

4. What is the relationship between the attitudes of the supervising teacher and the student achievement on the student teaching test?

5. What is the relationship between the quality of contacts by the supervising teacher and the achievement of the student in the student teaching test as viewed by the student, the cooperating teacher, and the supervising teacher?

6. What is the relationship between the number of visits and the achievement of the student in the student teacher test?

IV. FOLLOWUP

1. What is the relationship between achievement on student teaching test and success in teaching 1 year later and 5 years later as viewed by (a) the teacher, (b) his peers, (c) his students, (d) his administrator.

2. What does the teacher view as the major contributions of the methods classes, the foundations classes, student teaching, and the field experiences after teaching one year?

3. Is there any evidence of change in the kinds of jobs graduates take over a period of time?

4. What is the percentage of students who are earning a living in the education field one year, 5 year, 10 years after graduation?

5. What will be the extent of the need for VAE teachers in future years?

6. What is the relationship between the number of students who graduate from VAE and the number of those who return for graduate work ?

7. Are there any characteristics which relate to those who return and those who don't?

V. FACULTY LOAD SUBSYSTEM

1. What is the relationship between success in teaching a class as viewed by the faculty and his students and the experiences or academic expertise related to the class that he possesses?

2. What is the relationship between what faculty views as a full load vs. what the VAE model views as a full load?

VI. CLASS SCHEDULING SUBSYSTEM

1. What is the relationship between when classes are scheduled and the wishes of the faculty?

2. What is the percentage of increase/decrease in actual enrollment vs. projected enrollment?

3. What is the relationship between when classes are scheduled and the wishes of the students?

VII. CONTENT AND TESTS

1. What is the relationship between the level(bloom) of the objective and the sequence within which it falls? (Simple to complex)

2. What is the predictability of success on the prerequisite skills test if former objective passed?

3. What is the span of time which occurs between passing objective and not passing the prerequisite skills item for that objective?